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EXAMINER PHAN, HAI				
ART UNIT 2614		PAPER NUMBER		
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/593,424

Applicant(s)

RITTER ET AL.

Examiner

Hai Phan

Art Unit

2614

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 September 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 27-52 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 27-52 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 September 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB-06)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date 12/19/06

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: on page 2, line 19, the term "the said components" should be "the components"; on page 10, line 2, the word "<comprise>" should be "comprise"; on page 12, line 5, the number "50" should be deleted since Fig. 3 does not have numerical element 50 (number 50 is only shown in Fig. 5); on page 17, the abstract, the term "(Figure 1)" on line 10 should be deleted.

Appropriate correction is required.

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "means for retinal scanning display" (in claim 35), "means for capturing a direction of view" (claim 36) "speech recognition module for capturing spoken commands" (in claim 37), "photovoltaic cells for a power supply" (in claim 39) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure

is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

3. The drawings are objected to because the rectangular elements in Figs. 4 and 5 do not carry descriptive text labels for readily identification. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top

margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 27-52 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 27, in line 8, it is not clear if "the at least one first directionally dependent microphone" is the same as "at least one directionally dependent microphone". Furthermore, it is not clear if the first microphone (line 8) and the second microphone (line 9) belong to the "at least one directionally dependent microphone. If that is the case, the phrase "at least one directionally dependent microphone" in line 2 is confusing and is not correct when "only one microphone" is taken into consideration for such "at least one ..." phrase.

Regarding claim 40, this claim contains unclear language similar to claim 27 above and is rejected for the same reason,

Regarding claims 29 and 42, it is not clear how the signal captured by a first directionally dependent microphone is able to be filtered by the signal captured by a

third microphone. In other words, it is not clear how a signal could be filtered by another signal. Furthermore, it is not clear what the signal that is captured by a first directionally dependent microphone the claim actually refers to since it is not clear whether "a first directionally dependent microphone" is part of the "at least one directionally dependent microphone" referred to in claim 27, line 2.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 27 and 29-34 are rejected under 35 U.S.C. 102(b) as being anticipated by Chen et al (Pub No. WO 2004/016037; hereinafter referred to as Chen).

Regarding claim 27, Chen discloses a system for acoustical communication comprising an eyeglass frame (Fig. 1) comprising at least one directionally dependent microphone (say microphone 1 of microphone arrays 1, 2, 3, 4) for capturing voice signals of a user (page 16, lines 10 and 20-23) and communication means for signal transmission (8, 9) to external electronic devices (10), wherein directional dependence of the at least one microphone is user-specifically adjustable in a dynamic way by a control module (page 7, lines 8-11), wherein the control module (signal conditioning

circuitry) is further based on the voice signals captured by at least one second directional dependent microphone (say microphone 2 of microphone arrays 1, 2, 3, 4).

Regarding claim 29, as best understood from the claimed language, Chen further disclose a third microphone for capturing ambient noise (page 6, lines 15-16; Fig. 2, mini-microphones 101, 102), the signal captured by the first microphone is filtered by filter (Fig. 2, elements 110A, 110B), and the signal received from the first microphone is improved by the ambient noise received from the third microphone (via active noise control circuits 107A and 107B of Fig. 2).

Regarding claim 30, Chen further discloses (in Fig. 6) an amplifier (601 or 606) controllable by the signal captured by a third microphone (101).

Regarding claim 31, Chen further discloses that the signal captured by the microphone is processable based on reference filters (LPF as part of 112 in Fig. 2 and/or filter process of filters 110A and 110B; see also page 21, lines 14-16 and 25-16).

Regarding claim 32, Chen further discloses that the at least one directionally dependent microphone is implemented as at least one microphone array (microphone array 15 of Fig. 2; see 10, line 20).

Regarding claim 33, Chen further discloses that the microphone array is implemented in MEMS technology (page 15, lines 1-4).

Regarding claim 34, Chen further discloses that the external devices could be one of the various mobile devices including phone, radio, CD player, etc (page 25, lines 2-4).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

10. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chen et al (Pub No. WO 2004/016037; hereinafter referred to as Chen) in view of Gollmar et al (Patent 4,901,354)

Regarding claim 28, Chen fails to teach that the second directionally dependent microphone is a contact microphone. However, Gollmar et al disclose a device for improving voice detection having main microphone for measuring voice, microphone for measuring ambient noise, and a contact microphone for reliably detecting voice in

combination with the main voice microphone (col. 2, lines 3-8). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the contact microphone as taught by Gollmar et al into the system of Chen's so that voice sound can be correctly identified even in high ambient noise environment.

11. Claim 35 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chen et al (Pub No. WO 2004/016037; hereinafter referred to as Chen) in view of Butler et al (Patent US 6,474,816).

Regarding claim 35, Chen fails to teach the eyeglass frame comprises means for retinal scanning display. However, Butler et al teach an integrated retinal display mounted on the eyeglasses comprising means for retinal scanning display (see Fig. 1; col. 2, lines 23-34). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the means for retinal scanning display as taught by Butler et al into the system of Chen's because this would allow the user to be able to view video display along with voice communication via a eyeglasses; thus avoiding additional external display device.

12. Claim 36 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chen in view of Butler et al as applied to claim 35 above, and further in view of Nestorovic et al (Pub No. US 2004/0155186).

The combination of Chen and Butler et al fails to teach the means for capturing a direction of view. However, Nestorovic et al teach a means for capturing a direction of view used in the retinal scanning display (gaze tracker for detecting the gaze direction of the viewer so the image information is produced in response to the determined viewing direction; para 0031, claim 61, claim 77). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the means for capturing a direction of view as taught by Nestorovic et al into the combined system of Chen and Butler et al's so that desired image can be provided in accordance with the user's direction of view.

13. Claims 37-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen et al (Pub No. WO 2004/016037; hereinafter referred to as Chen).

Regarding claims 37-38, Chen fails to teach the speech recognition module for capturing spoken commands and the Bluetooth, or ZigBee, GSM, or UMTS interfaces. However, the Examiner takes Official Notice that speech recognition module for capturing spoken commands and the various claimed communications interfaces are very well-known in the art. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the speech recognition module into the system of Chen's so that certain functions can be conveniently carried out without physical manipulation, and to utilize one of the well-known interfaces into the system's of Chen depending on the network and/or device the system is to be connected so that compatibility can be achieved.

14. Claim 39-40, 42-47 and 50-52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen et al (Pub No. WO 2004/016037; hereinafter referred to as Chen) in view of Warren (Patent 7,013,009).

Regarding claim 39, Chen fails to teach the photovoltaic cells for a power supply. However, Warren teach an eyeglasses with wireless communication features mounted thereon where photovoltaic cells is used as power supply (col. 5, lines 32-33). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use photovoltaic cells for a power supply as taught by Warren as a power source for Chen's system because this conventional battery is well-known in the art for use in electronic devices and is readily available in the market.

Regarding claims 40 and 42-47, Chen's system as discussed in rejecting claims 27 and 29-34 above fully support the steps and functions of these method claims except that Chen uses a wired interface rather than the wireless interface for communicating with the external device. However, Warren teaches a wireless communication interface between the circuitry on the eyeglasses frame to the external device (see Fig. 1 and abstract, lines 1-4). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to substitute wired communication of Chen's system with wireless interface of Warren's because wireless communication eliminates the messy wire(s) required by the wired communication.

Regarding claim 51, the combined method of Chen and Warren further discloses Bluetooth interface for transmitting captured signals to the external device (col. 4, lines 65).

Regarding claim 52, the combined method of Chen and Warren further discloses photovoltaic cells is used as power supply (see Warren's col. 5, lines 32-33).

Regarding claim 50, the combination of Chen and Warren fails to teach the capturing of spoken commands by a speech recognition module and the Bluetooth. However, the Examiner takes Official Notice that speech recognition module for capturing spoken commands is very well-known in the art. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the capturing spoken commands by speech recognition module into the combined method of Chen and Warren's so that certain functions can be conveniently carried out without physical manipulation.

15. Claim 41 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chen et al (Pub No. WO 2004/016037; hereinafter referred to as Chen) in view of Warren (Patent 7,013,009) as applied to claim 40 above, and further in view of Gollmar et al (Patent 4,901,354)

Regarding claim 41, Chen fails to teach that the second directionally dependent microphone is a contact microphone. However, Gollmar et al disclose a device for improving voice detection having main microphone for measuring voice, microphone for measuring ambient noise, and a contact microphone for reliably detecting voice in

combination with the main voice microphone (col. 2, lines 3-8). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the contact microphone as taught by Gollmar et al into the method of Chen's so that voice sound can be correctly identified even in high ambient noise environment.

16. Claim 48 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chen in view of Warren as applied to claim 40 above, and further in view of Butler et al (Patent US 6,474,816).

Regarding claim 48, Chen fails to teach wherein the user has image data projected onto the retina using a retinal scanning display. However, Butler et al teach an integrated retinal display mounted on the eyeglasses comprising means for retinal scanning display (see Fig. 1; col. 2, lines 23-34). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the means for retinal scanning display as taught by Butler et al into the method of Chen's because this would allow the user to be able to view video display along with voice communication via a eyeglasses; thus avoiding additional external display device.

17. Claim 49 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chen in view of Warren and Butler et al as applied to claim 48 above, and further in view of Nestorovic et al (Pub No. US 2004/0155186).

Regarding claim 49, the combination of Chen, Warren and Butler et al fails to teach wherein a direction of view of the user is captured by a module. However, Nestorovic et al teach capturing a direction of view used in the retinal scanning display (gaze tracker for detecting the gaze direction of the viewer so the image information is produced in response to the determined viewing direction; para 0031, claim 61, claim 77). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the capturing a direction of view as taught by Nestorovic et al into the combined method of Chen, Warren and Butler et al's so that desired image can be provided in accordance with the user's direction of view.

Conclusion

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai Phan whose telephone number is (571) 272-6338. The examiner can normally be reached on Monday-Friday (9:00AM-5:30PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis Kuntz can be reached on 571-272-7499. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Hai Phan/
Examiner, Art Unit 2614